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AP-23-03
Name: Kenneth S. Collins

PATENT

Attorney Docket No. 306 D12

RW Ref. No. APM/079-95-CP1-CN1-CPA-DV1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Kenneth COLLINS, et al.) Group Art Unit: 1763
Entitled: PLASMA REACTOR HAVING) Examiner: Luz Alejandro-Mulero
AN RF POWER APPLICATOR AND A)
DUAL-PURPOSE WINDOW)
Serial No.: 10/021,195)
Filing Date: October 30, 2001)

DECLARATION UNDER 37 CFR § 1.132

I, Kenneth S. Collins, hereby declare, upon information and belief, the following:

1. I am the sole inventor of the concept of a window electrode that is both a window for an external inductive antenna (for inductive coupling of power to a plasma) and an electrode (for capacitive coupling of power to a plasma), and this concept is claimed in independent Claims 1 and 13.

2. Claims 1 and 13 are supported by disclosure in the specification at page 33 lines 25-31: "... the ceiling 52 may be a semiconductor (e.g., silicon) material doped so that it will act as an electrode capacitively coupling the RF bias power applied to it into the chamber 40 and simultaneously as a window through which RF power applied to the solenoid 42 may be inductively coupled into the chamber."

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3. Disclosure supporting Claims 1 and 13 is contained in the parent of the present application, namely Serial No. 08/733,555 filed Oct. 1, 1996, now U.S. Patent No. 6,063,233. This disclosure is found in said U.S. Patent No. 6,063,233 at column 15 line 64 through column 16 line 2.

4. Disclosure supporting Claims 1 and 13 is contained in the parent of the above-referenced Serial No. 08/733,555, namely Serial No. 08/648,254 filed May 13, 1996, now U.S. Patent No. 6,165,311. This disclosure is found in said U.S. Patent No. 6,165,311 at column 16 line 64 through column 17 line 2.

5. Disclosure supporting Claims 1 and 13 is contained in the parent of the above-referenced Serial No. 08/648,254, namely Serial No. 08/520,026 filed Dec. 20, 1995, which is a continuation of Serial No. 08/041,796 filed April 1, 1993, which is a continuation of U.S. Serial No. 07/722,340 filed Jun. 27, 1991.

6. The last three applications referred to in paragraph 5 above, namely Serial No. 08/520,026, Serial No. 08/041,796 and Serial No. 07/722,340, are continuation applications and have virtually identical specifications so that the disclosure of one is effectively the same as the disclosure of the other. Serial No. 08/041,796 issued as U.S. Patent No. 5,556,501, and therefore the specification of the aforesaid U.S. Patent No. 5,556,501 is the same as the specification of the last three applications referred to in paragraph 5 above, namely Serial No. 08/520,026, Serial No. 08/041,796 and Serial No. 07/722,340.

7. Disclosure supporting Claims 1 and 13 is identical in each of the last three applications referred to in paragraph 5 above, namely Serial No. 08/520,026, Serial No. 08/041,796 and Serial No.

07/722,340, and is found in the aforesaid U.S. Patent No. 5,556,501 as follows:

(a) a silicon dome (consisting of a silicon-comprising dome top 17T and a silicon-comprising sidewall 17S, which together act as a monolithic electrode) is disclosed at column 7 lines 33-38, thus supporting the element of "a window electrode proximal a wall of said chamber";

(b) a coil outside the dome 17 is disclosed at column 8 line 4-7, so that power from the coil necessarily must be inductively coupled through the dome, thus supporting the limitation of "a window electrode passing RF power therethrough" of Claim 1 for example;

(c) the role of the dome 17 as an anode electrode (with the pedestal being the cathode) is disclosed at column 21 lines 47-52, so that the dome necessarily provides capacitive coupling into the chamber, thus supporting the limitation of "a capacitive electrode..." of Claim 1, for example.

8. Concerning the dome 17 of Serial No. 08,041,796, its side wall 17S and top 17T are both conductive (semi-conductive silicon), so that they are both portions of the entire dome, so that RF bias power (or ground or a floating potential) applied to the top 17T is conducted throughout the entire electrode including the side wall 17S, so that the side wall 17S both has RF bias power applied directly to it while being a window for the outer coil that is next to it.

9. The Table I as shown below sets forth the support in the foregoing chain of applications for Claims 1-18 and is a part of this declaration.

TABLE I

	SERIAL NO. 07/722,340	SERIAL NO. 08/041,796 PAT. 5,556,501	SERIAL NO. 08/520,026	SERIAL NO. 08/648,254 PAT. 6,165,311	SERIAL NO. 08/733,555 PAT. 6,063,233	SERIAL NO. 09/350,234 PAT. 6,365,063
CLAIM 1						
LINES 1-4	P. 15, LINES 22-42	COL. 8, LINE 50 THROUGH COL. 9, LINE 4	SAME AS 07/722,340	COL. 10, LINES 36-39; COL. 10, LINES 1-3	COL. 10, LINES 50-53; COL. 10, LINES 15-17	COL. 9, LINES 56-59; COL. 9, LINES 21-23
LINES 5-9	P. 13, LINES 18-27	COL. 7, LINES 33-38	SAME AS 07/722,340	COL. 9, LINES 42-28	COL. 9, LINES 56-62	COL. 8, LINES 62-67
LINES 10-12	P. 37, LINES 16-21	COL. 21, LINES 47-52	SAME AS 07/722,340	COL. 15, LINES 64-67	COL. 16, LINES 16-19	COL. 15, LINES 21-24
LINES 13-15	P. 14, LINES 19-21; P. 15, LINES 22-25	COL. 8, LINES 4-7; COL. 8, LINES 50-54	SAME AS 07/722,340	COL. 15, LINES 67 THROUGH COL. 16, LINE 2	COL. 16, LINES 19-21	COL. 15, LINES 24-26
CLAIMS 2, 17, 18	P. 13, LINES 25-27	COL. 7, LINES 36-38	SAME AS 07/722,340	COL. 11, LINES 46-47	COL. 11, LINES 60-61	COL. 10, LINES 66-67
CLAIMS 3, 4, 6, 7, 14, 15	P. 40, LINES 36-38	COL. 23, LINES 31-33	SAME AS 07/722,340	COL. 16, LINES 66-67	COL. 17, LINES 36-37	COL. 16, LINES 41-42
CLAIM 5	P. 14, LINES 19-21	COL. 8, LINES 4-7	SAME AS 07/722,340	COL. 10, LINES 36-39	COL. 10, LINES 50-53	COL. 9, LINES 56-59
CLAIMS 8, 16	P. 37, LINES 16-21	COL. 21, LINES 47-52	SAME AS 07/722,340	COL. 9, LINES 42-48	COL. 9, LINES 56-62	COL. 8, LINES 62-67
CLAIMS 9, 11	P. 13, LINES 18-27	COL. 7, LINES 33-38	SAME AS 07/722,340	COL. 15, LINES 46-55; COL. 16, LINES 66-67	COL. 15, LINE 65; COL. 17, LINES 36-37	COL. 15, LINES 3-12; COL. 16, LINES 41-42
CLAIM 10	P. 15, LINES 22-42	COL. 8, LINE 50 THROUGH COL. 9, LINE 4	SAME AS 07/722,340	COL. 10, LINES 1-3 AND LINES 36-39	COL. 10, LINES 15-17 AND LINES 50-53	COL. 9, LINES 21-23 AND LINES 56-59
CLAIM 12	P. 14, LINES 19-21	COL. 8, LINES 4-7	SAME AS 07/722,340	FIG. 4D	FIG. 4D	FIG. 4D
CLAIM 13						
LINES 1-4, 6-7	P. 15, LINES 22-24	COL. 8, LINE 50 THROUGH COL. 9, LINE 4	SAME AS 07/722,340	COL. 10, LINES 36-39; COL. 10, LINES 1-3	COL. 10, LINES 50-53; COL. 10, LINES 15-17	COL. 9, LINES 56-59; COL. 9, LINES 21-23
LINE 5	P. 13, LINES 18-27	COL. 7, LINES 33-38	SAME AS 07/722,340	COL. 9, LINES 42-48	COL. 9, LINES 56-62	COL. 8, LINES 62-67
LINES 8-11	P. 37, LINES 16-21	COL. 21, LINES 47-52	SAME AS 07/722,340	COL. 15, LINES 64-67	COL. 16, LINES 16-19	COL. 15, LINES 21-24

LINES 12-15	P. 14, LINES 19-21; P. 15, LINES 22-25	COL. 8, LINES 4-7; COL. 8, LINES 50-54	SAME AS 07/722,340	COL. 15, LINES 67 THROUGH COL. 16, LINE 2	COL. 16, LINES 19-21	COL. 15, LINES 24-26
CLAIM 14	P. 14, LINES 19-21; P. 40, LINES 36-38	COL. 8, LINES 4-7; COL. 23, LINES 30-42	SAME AS 07/722,340	COL. 10, LINES 36-39; COL. 16, LINES 66-67	COL. 10, LINES 50-53; COL. 17, LINES 36-37	COL. 9, LINES 56-59; COL. 16, LINES 41-42

10. I am a named inventor in each of the chain of patent applications referred to in paragraphs 1-7 above. I am the sole inventor of Claims 1-18. The unbroken chain of continuation-in-part and continuation applications cited above has continuity of inventorship, continuity of disclosure (with respect to Claims 1-19) and continuity of prosecution, Claims 1-18 are entitled to a filing date of the earliest application in this chain, namely June 27, 1991.

11. I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge except as to matters alleged upon information and belief, and as to those matters I believe them to be true, and I acknowledge that willful false statements and the like herein are punishable by fine and/or imprisonment under 18 USC 1001.

Dated: 4-17-2003

Signed: K S Collins
Kenneth S. Collins